AMENDMENTS TO THE CLAIMS

Please amend the claims as follows:

1. **(Original)** A microfluidic valve comprising a first body for containing fluid having a fluid inlet and a fluid outlet and a plurality of electrodes, and arranged to contain, in use, a second body held within fluid contained in the first body, the second body being moveable toward or away from one of the fluid inlet or fluid outlet, the movement of the second body caused by a phase difference in the electric field generated by the electrodes, such that fluid flow into or out of the first body is controlled.

2. **(Original)** The microfluidic valve of claim 1, wherein the plurality of electrodes is an array.

3. **(Currently amended)** The microfluidic valve of claim 1 ~~**or 2**~~, wherein the plurality of electrodes are arranged on a side of the first body.

4. **(Currently amended)** The microfluidic valve of claim**[s]** 1, ~~**2 or 3**~~**[,]** wherein the plurality of electrodes are arranged on opposite sides of the first body.

5. **(Currently amended)** The microfluidic valve of claim**[s]** 1, ~~**2 or 3**~~**[,]** wherein the plurality of electrodes are arranged on adjacent sides of the first body.

6. **(Currently amended)** The microfluidic valve of ~~**any of**~~ claim[s] 1 ~~**to 5**~~, wherein the phase difference is produced by an electric field gradient created by applying alternating current to the plurality of electrodes.

7. **(Currently amended)** The microfluidic valve of ~~any of~~ claim**[s]** 1 ~~to 5~~, wherein the phase difference is produced by a non-uniform electric field created by applying alternating current to the plurality of electrodes.

8. **(Original)** The microfluidic valve of claim 6, wherein the phase difference is a phase lag of 90°.

9. **(Original)** The microfluidic valve of claim 7, wherein the phase difference is a phase lag of 90°.

10. **(Currently amended)** The microfluidic valve of ~~any of~~ claim**[s]** 1 ~~to 9~~, wherein the phase difference causes the second body to move toward or away from one of the fluid inlet or fluid outlet.

11. **(Currently amended)** The microfluidic valve of ~~any preceding~~ claim 1, wherein when the second body is moved toward one of the fluid inlet or fluid outlet, fluid flow into or out of the body is precented.

12. **(Original)** The mircofludic valve of claim 11, wherein when fluid flow is prevented, the valve is switched off.

13. **(Currently amended)** The microfluidic valve of claim 10, ~~11 or 12~~**[,]** wherein when the second body if moved away from one of the fluid inlet or fluid outlet, the valve is on.

14. **(Currently amended)** The microfluidic valve of ~~any preceding~~ claim 1, wherein the second body is of a dielectric material.

15. **(Original)** The microfluidic valve of claim 14, wherein the dielectric material is one of latex, polystyrene, polypropylene, glass, silica or PTFE.

16. **(Currently amended)** The microfluidic valve of ~~any of~~ claim**[s]** 1 ~~to 13~~, wherein the second body is a bubble.

17. **(Original)** The microfluidic valve of claim 16, further comprising a bubble generation chamber with an opening into the body.

18. **(Currently amended)** The microfluidic valve of ~~any preceding~~ claim 1, wherein the first body defines a chamber.

19. **(Currently amended)** The microfluidic body of any of claim**[s]** 1 ~~to 17~~, wherein the first body defines a channel.

20. **(Original)** The microfluidic valve of claim 19, wherein the channel is a pipe.

21. **(Currently amended)** The microfluidic valve ~~any preceding~~ claim 1, wherein the second body is moveable in the electric field by dielectrophoresis.

22. **(Currently amended)** The microfluidic valve of ~~any of~~ claim**[s]** 1 ~~to 13~~, wherein the second body is electrically conductive.

23. **(Original)** The microfluidic valve of claim 22, wherein the second body is moveable in the electric field by electrophoresis.

24. **(Currently amended)** The microfluidic valve of ~~any of~~ claim**[s]** 1 ~~to 20~~, wherein the second body is moveable in the electric field by electro-osmosis.

25. **(Currently amended)** The microfluidic valve of ~~any preceding~~ claim 1, wherein the fluid flow is laminar.

26. **(Currently amended)** The microfluidic valve of ~~any preceding~~ claim 1, wherein the first body has a plurality of inlets.

27. **(Currently amended)** The microfluidic valve of ~~any of~~ claim**[s]** 1 ~~to 26~~, wherein the first body has a plurality of outlets.

28. **(Currently amended)** The microfluidic valve of claim 26 ~~or 27~~, wherein the fluid flow through each inlet or each outlet is controllable.

29. **(Currently amended)** The microfluidic valve of ~~any preceding~~ claim 1, wherein the second body controls fluid flow through a fluid inlet.

30. **(Currently amended)** The microfluidic valve of ~~any of~~ claim**[s]** 1 ~~to 28~~, wherein the second body controls fluid flow through a fluid outlet.

31. **(Currently amended)** The microfluidic valve of ~~any preceding~~ claim 1, wherein the fluid is a liquid.

32. **(Currently amended)** The microfluidic valve of ~~any of~~ claim**[s]** 1 ~~to 31~~, wherein the fluid is a gas.

33. **(Original)** A method of controlling fluid flow is a microfluidic valve comprising:

applying a voltage to a plurality of electrodes arranged on a first body containing fluid, the body having a fluid inlet and a fluid outlet thereby creating an electric field; and

causing a second body to move, due to a phase difference in the electric field induced between adjacent electrodes, toward or away from one of the fluid inlet or fluid outlet.

34. **(Original)** The method of claim 33, wherein the plurality of electrodes is an array.

35. **(Original)** The method of claim 33, wherein an alternating current is applied to the electrodes.

36. **(Currently amended)** The method of ~~any of~~ claim**[s]** 33, ~~34 or 35~~**[,]** wherein the phase difference is a phase lag of 90°.

37. **(Currently amended)** The method of any of ~~any of~~ claim**[s]** 33, ~~34 or 35~~**[,]** wherein the phase difference is a phase advance of 90°.

38. **(Currently amended)** The method of ~~any of~~ claim**[s]** 33 ~~to 37~~, wherein the phase difference causes the second body to move toward or away from one of the fluid inlet or fluid outlet.

39. **(Original)** The method of claim 38, wherein when the second body is moved toward one of the fluid inlet or fluid outlet, fluid flow into or out of the first body is prevented.

40. **(Original)** The method of claim 39, wherein when fluid flow is prevented, the valve is switched off.

41. **(Currently amended)** The method of ~~any of~~ claim**[s]** 33 ~~to 38~~, wherein when the second body is moved away from one of the fluid inlet or fluid outlet, the valve is switched on.

42. **(Currently amended)** The method of ~~any of~~ claim**[s]** 33 ~~to 41~~, wherein the second body is of a dielectric material.

43. **(Original)** The method of claim 42, wherein the dielectric material is one of latex, polystyrene, polypropylene, glass, silica of PTFE.

44. **(Currently amended)** The method of ~~any of~~ claim**[s]** 33 ~~to 42~~, wherein the second body is a bubble.

45. **(Original)** The method of claim 44, further comprising generating the bubble in a bubble generation chamber which opens onto the first body.

46. **(Original)** The method of claim 45, further comprising introducing the bubble into the first body.

47. **(Original)** The method of claim 46, wherein the bubble is introduced into the first body before applying alternating current to the plurality of electrodes.

48. **(Original)** The method of claim 46, wherein the bubble is introduced into the first body after applying alternating current to the plurality of electrodes.

49. **(Currently amended)** The method of ~~any of~~ claim**[s]** 33 ~~to 48~~, wherein the second body is moveable in the electric field by 30 dielectrophoresis.

50. **(Currently amended)** The method of ~~any of~~ claim**[s]** 33 ~~to 49~~, wherein the second body is an electrically conductive particle.

51. **(Original)** The method of claim 50, wherein the second body is moveable in the electric field by electrophoresis.

52. **(Currently amended)** The method of ~~any of~~ claim**[s]** 33 ~~to 48~~, wherein the second body is moveable in the electric field by electro-osmosis.

53. **(Currently amended)** A microfluidic chip comprising the microfluidic valve of ~~any of~~ claim**[s]** 1 ~~to 32~~.

54. **(Currently amended)** A microfluidic switch comprising the valve of ~~**any of**~~ claim**[s]** 1 ~~**to 32**~~.

55. **(Original)** The method of claim 33, wherein the electric field is non-uniform.

56. **(Original)** The method of claim 33, wherein the electric field has an electric field gradient.

57. **(Currently amended)** A diagnostic device comprising the microfluidic ~~**chip**~~ **valve** of claim **[55]** 1 ~~**or the microfluidic switch of claim 56**~~.

58. **(Original)** A microfluidic valve substantially as herein described and with reference to figures 2 to 6 of the accompanying drawings.

59. **(Original)** A method of controlling fluid flow substantially as described herein and with reference to figures 2 to 6 of the accompanying drawings.

60. **(New)** A diagnostic device comprising the microfluidic switch of claim 55.